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Contacts.—The regulations of the Kentucky State Board of Health impose a quarantine of 21 days on all persons who have been exposed to smallpox. Rebellion against this long quarantine caused nearly all “contacts” to conceal the fact of exposure and adds materially to the difficulties attending measures for control of the epidemic.

STOMOXYS CALCITRANS LINN.

A NOTE GIVING A SUMMARY OF ITS LIFE HISTORY.

By M. B. MITZMAIN, Entomologist, Bureau of Agriculture, Philippine Islands.

The recent findings of laboratory workers concerning the possibility of the transmission of poliomyelitis by the stable fly, *Stomoxys calcitrans*, makes of interest the life history of this insect. An account of my two years' experience with this fly has been prepared for publication elsewhere. The following, however, is a brief summary giving the essential features:

SUMMARY OF FACTS ESTABLISHED.

1. The age at which the female begins egg laying has been determined in bred flies as the ninth day.

2. The maximum number of eggs produced by a single *Stomoxys* may be placed at, at least, 632 and possibly 820. As many as 20 depositions are made in the lifetime of a female. The maximum number of eggs deposited at one period was found to be 94.

3. The incubation period for these eggs is 20 to 26 hours at a temperature of 29° C. to 31° C.

4. The larval stage under favorable conditions is usually 7 to 8 days.

5. The imago emerges from the puparium generally in 5 days.

6. The fly of either sex takes its initial bite in 6 to 8 hours after emergence from the puparium. Flies of this species have been observed to feed experimentally on 17 species of vertebrates including man, reptile, bird, and rodent.

7. It has been demonstrated that in feeding on live stock *Stomoxys* probes a wound with its labium from which nonbiting flies draw blood. Surra organisms have been demonstrated in the mouth parts and stomachs of house flies used in experiments in this connection.

8. In considering the longevity of *Stomoxys calcitrans* it has been determined that a female can live a maximum of at least 72 days and a male a period of 94 days.

9. The life cycle of *calcitrans*, as seen by the following chart, varies considerably according to the treatment the young forms receive. Under optimum conditions this is a period of 12 days, but under unfavorable surroundings in light and absence of moisture, the life cycle may be extended to 35 days.

LIFE HISTORY OF STOMOXYS CALCITRANS LINN. AT VARIOUS PERIODS UNDER FAVORABLE AND UNFAVORABLE CONDITIONS.

Date of oviposition.	Incubation period.	Larva stage.	Pupa stage.	Life cycle.	Conditions of development.
	<i>Days.</i>	<i>Days.</i>	<i>Days.</i>	<i>Days.</i>	
Feb. 7.....	2	26	6	35	Medium of dry horse manure left in light of the room.
17.....	2	14	7	23	
23.....	2	11	6	19	Do.
23.....	1	13	5	19	Do.
Apr. 7.....	2	14	6	22	Do.
June 14.....	1	8	5	14	Medium of moist horse manure and corn meal.
Aug. 10.....	1	9	5½	15½	Medium of moist horse manure and bran.
Oct. 1.....	1	7	5	13	Medium of moist guinea-pig manure mixed with chopped guinea grass.
12.....	1	9	5	15	Medium of moist horse manure and layers of filter paper.
23.....	1	6	5	12	Medium of carabao and horse manure placed in a barrel shaded at all hours, outdoors.

¹ From this brood several flies emerged one month after egg laying.

NOTE.—The last five cultures, but one, were developed in open jars in an airy closet, darkened in all hours, at a temperature of an average of 30° C.

QUARANTINE INSTRUCTIONS.

FUMIGATION OF VESSELS TO PREVENT THE SPREAD OF PLAGUE.

FEBRUARY 15, 1913.

To medical officers in command, acting assistant surgeons in charge, national quarantine stations, and others concerned:

This letter is intended to replace bureau letters of August 9, 1912, September 25, 1912, October 8, 1912, November 18, 1912, and January 20, 1913.

Vessels from the following ports are to be fumigated throughout for the destruction of rats upon their arrival at United States ports and the masters of said vessels are to be directed in writing to have all lines or hawsers leading to shore protected by rat guards, when such vessels are lying at United States ports, all gangplanks to be raised at night unless men be stationed near by to destroy escaping rats.

1. All ports in South America, including the river ports thereof.
2. All ports in Africa (including the Azores, Canary Islands, Cape Verde Islands, and Madeira).
3. All ports in Asia (including those of the Straits Settlements, Japan, the Philippine Islands, and the Malay Archipelago).

Vessels from the following ports are to be fumigated throughout for the destruction of rats upon their arrival at United States ports, as often as once every four months, unless there are quarantine reasons where fumigation should be made more often.

1. West Indian ports, including Cuban ports, but not including Porto Rican ports.